CHINO AIRPORT

Chapter Two
AVIATION DEMAND FORECASTS

Aviation Demand Forecasts

Facility planning must begin with a definition of the demand that may reasonably be expected to occur at the facility over a specific period of time. For Chino Airport, this involves forecasts of aviation activity through the year 2025. In this master plan, forecasts of based aircraft, based aircraft fleet mix, and annual aircraft operations will serve as the basis for facility planning.

It is virtually impossible to predict with any certainty year-to-year fluctuations of activity when looking more than 20 years into the future. Because aviation activity can be affected by many influences at the local, regional, and national levels, it is important to remember that forecasts are to serve only as guidelines and planning must remain flexible enough to respond to unforseen facility needs.

The following forecast analysis examines recent developments, historical information, and current aviation trends to provide an updated set of aviation demand projections for Chino Airport. The intent is to permit San Bernardino

County to make planning adjustments necessary to ensure that the facility meets projected demands in an efficient and cost-effective manner.

The forecasts for Chino Airport were prepared subsequent to the events of September 11, 2001, when four commercial airliners were hijacked. Immediately following the events of September 11th, the national airspace system was closed and all commercial and general aviation flights were grounded. Following the resumption of flights, commercial airline traffic was down, which led to schedule reductions

and layoffs by many of the commercial airlines. The federal government provided billions of dollars in financial assistance to the commercial airlines, along with loan guarantees. No similar assistance was provided for the general aviation industry.

While the commercial airline industry experienced sharp decreases in passenger traffic, charter operators and fractional ownership companies were experiencing a significant increase. Media reports indicated that some charter companies experienced a 50 percent increase in business, and fractional ownership companies gained new ownership in fractional aircraft.

There is no comparative period in recent history to draw conclusions or trends to gauge the full effects of these events. In 1991, the commercial airlines experienced a decline in passengers and profits due to the Persian Gulf War and simultaneous economic recession. However, general aviation was already in an extended period of decline due to product liability concerns and was not specifically affected by the war or economic recession. The industry did not begin to recover until 1994 with the passage of the General Aviation Revitalization Act. Commercial airline traffic experienced a decline only in 1991, growing each subsequent year through 2000.

The total impacts the events of September 11, 2001 will have on commercial and general aviation can only be determined over time. Commercial airline recovery will be a factor of air traveler confidence in new security measures and the recovery of the U.S. economy, which was slowing in 2001. General aviation recovery will be dependent upon economic recovery, fuel prices, and the type and extent of any new regulatory controls over flight training and operations.

The long term aviation trends used in these forecasts for Chino Airport are expected to remain relevant and applicable to intermediate and long term growth. While there may be a short-lived decline in commercial airline activity, a decline over many years is not expected. A similar decline in general aviation is not expected, as the general aviation industry has not been specifically affected by the events of September 11, 2001.

The demand-based manner in which this master plan is being prepared is intended to accommodate variations in demand at the airport. Demand-based planning relates capital improvements to demand factors, such as based aircraft, instead of points in time. This allows the airport to address capital improvement needs according to actual demand occurring at the airport. Therefore, should based aircraft growth slow or decline, it may not be necessary to implement some improvement projects. However, should the airport experience accelerated growth, the plan will have accounted for that growth and will be flexible enough to respond accordingly.

GENERAL AVIATION TRENDS

Each year the Federal Aviation Administration (FAA) publishes its

national aviation forecast. Included in this publication are forecasts for air carriers, regional air carriers, general aviation, and military activity. The forecasts are prepared to meet budget and planning needs of the constituent units of the FAA and to provide information that can be used by state and local authorities, the aviation industry, and the general public. The current edition when this chapter was written was FAA *Aviation Forecasts - Fiscal Years 2001-2012*. These forecasts use the economic performance of the United States as an indicator of future aviation industry growth. Similar economic analyses are applied to the outlook for aviation growth in international markets. Long term FAA forecasts through the year 2025 are provided in the FAA *Long Range Aerospace Forecasts* document.

By most statistical measures, general aviation recorded its sixth consecutive year of growth in 2000. Following more than a decade of decline, the general aviation industry was revitalized with the passage of the General Aviation Revitalization Act in 1994 (federal legislation which limits the liability on general aviation aircraft to 18 years from the date of manufacture). The positive effects the Act has had on the general aviation industry since its passage are reflected in general aviation activity statistics. General aviation manufacturers' shipments were up for a seventh consecutive year in 2000, growing from 928 in 1994 to 2,816 in 2000. Piston-engine aircraft production more than tripled between 1994 and 2000, growing from 499 to 1,913. The production of turbine-powered aircraft was in its eighth consecutive year of growth in 2000, up from 348 in 1992 to 903 in 2000.

Based on the results of the *1999 General Aviation and Air Taxi Activity and Avionics Survey*, the size of the active aircraft fleet and hours flown increased in 1999 for the fifth consecutive year. While activity at FAA air traffic facilities declined 0.5 percent in 2000, most likely due to higher fuel prices, instrument operations were up for the fourth consecutive year, signifying the continued growth in the use of sophisticated general aviation activity for business purposes. The number of student pilots grew for the third consecutive year.

Manufacturer and industry programs and initiatives also continue to revitalize the general aviation industry. Notable initiatives include the "No Plane, No Gain" campaign sponsored by the General Aviation Manufacturers Association (GAMA) and the National Business Aviation Association (NBAA), "Project Pilot" sponsored by the Aircraft Owners and Pilots Association (AOPA), the "Learn to Fly" campaign sponsored by the National Air Transportation Association (NATA), and "Be a Pilot" sponsored by numerous aviation companies and organizations. The "No Plane, No Gain" campaign is a program promoting the cost-effectiveness of using general aviation aircraft for business and corporate uses. "Project Pilot," "Learn to Fly," and "Be a Pilot" are all programs promoting the training of new pilots.

The general aviation industry is also launching new programs to make aircraft ownership easier and more

affordable. The New Piper Aircraft Company has created Piper Financial Services (PFS) to offer competitive interest rates and/or leasing of Piper aircraft. The Experimental Aircraft Association (EAA) offers financing for kit-built airplanes through a private lending institution.

On February 5, 2002, the FAA published a notice of proposed rulemaking (NPRM), titled *Certification of Aircraft and Airmen for the Operation of Light-Sport Aircraft*. The rulemaking would establish new light-sport aircraft categories and allow aircraft manufacturers to build and sell completed aircraft without obtaining type and production certificates. Instead, aircraft manufacturers would build to industry consensus standards. This reduces development costs and subsequent aircraft acquisition costs. This new category places specific conditions on the design of the aircraft to limit them to low performance aircraft. New pilot training times are reduced and offer more flexibility in the type of aircraft which the pilot would be allowed to operate. Viewed by many within the general aviation industry as a revolutionary change in the regulation of recreational aircraft, this new rulemaking is anticipated to significantly increase access to general aviation by reducing the time and costs to earn a pilot's license and owning and operating an aircraft.

A particularly important component of the general aviation industry is business and corporate use of general aviation aircraft, particularly turbine-powered aircraft. Business and corporate uses represent 23 percent of all general aviation activity. For 1999, those categories grew 6.9 percent over 1998. Growth in these categories is driven by the continued expansion of fractional ownership programs and corporate flight departments.

Fractional ownership programs allow businesses or individuals to purchase a fractional interest in an aircraft, then pay for only the time they use the aircraft. These programs offer greater flexibility to users who otherwise would not generate sufficient activity to support aircraft ownership. In 2000, there were nearly 2,000 entities involved in fractional ownership of over 530 aircraft. In 1993, only two dozen aircraft were involved in fractional ownership. The NBAA estimates the corporate aircraft fleet has grown at 5.4 percent annually and the number of flight departments has grown at 4.5 percent annually since 1993. This signifies that existing corporate flight departments are expanding and new ones are being added. The success of fractional ownership programs is believed to have driven the expansion of corporate flight departments as businesses which have become reliant on the access and time savings of corporate flying find it more cost-effective to establish a flight department rather than purchase a larger share in a fractional ownership program.

Exhibit 2A depicts the FAA forecast for active general aviation aircraft in the United States through 2025. The FAA forecasts general aviation aircraft to increase at an average annual rate of 0.9 percent through 2025, with turbine-powered aircraft projected to grow at

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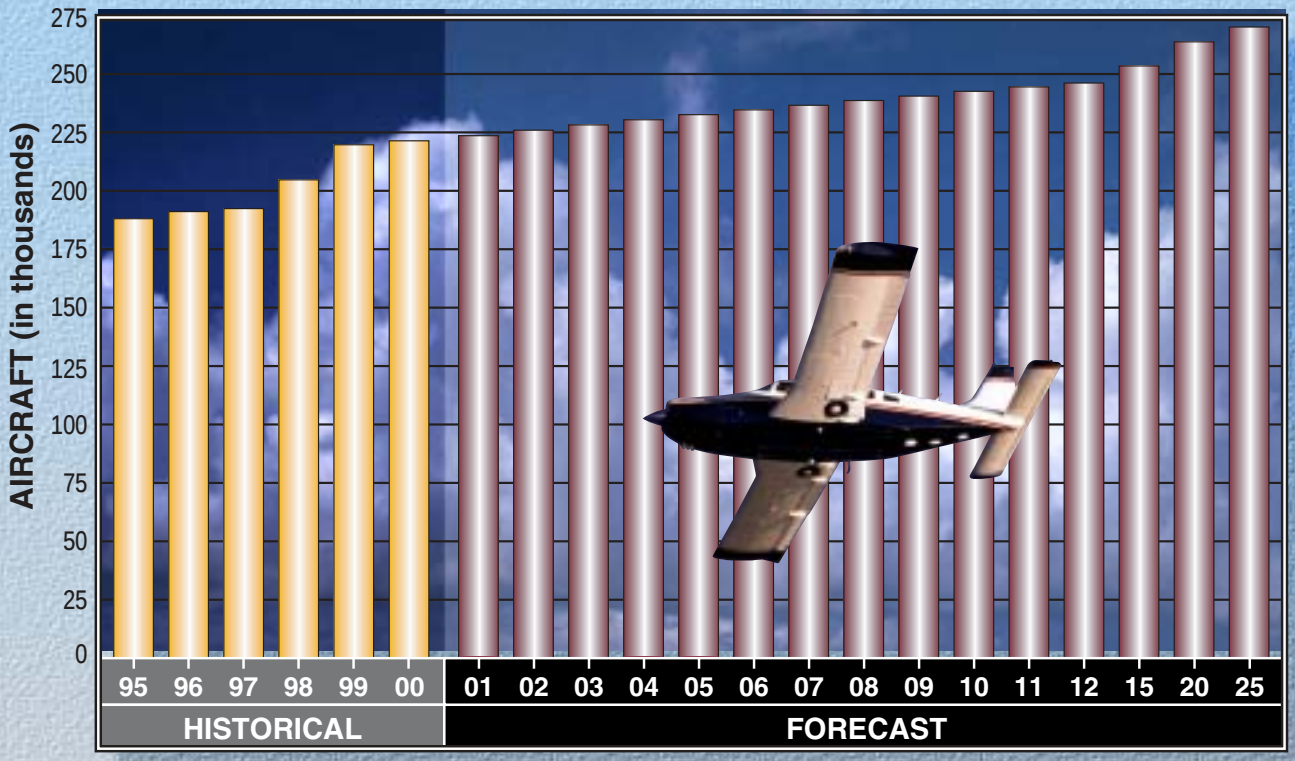
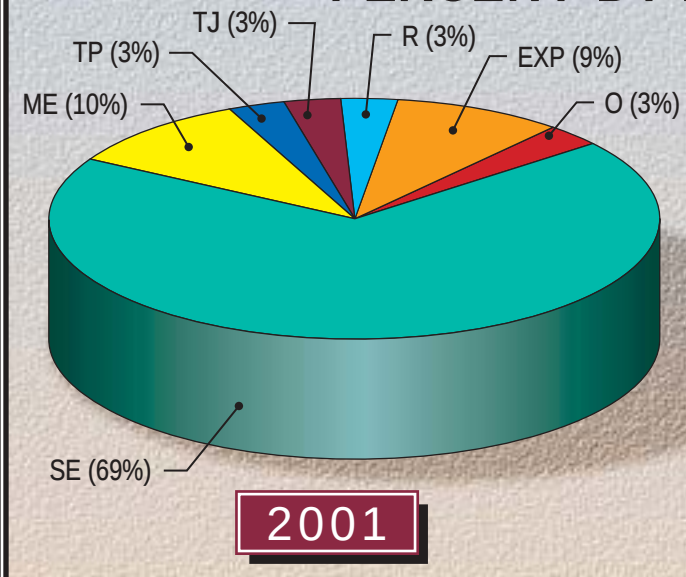
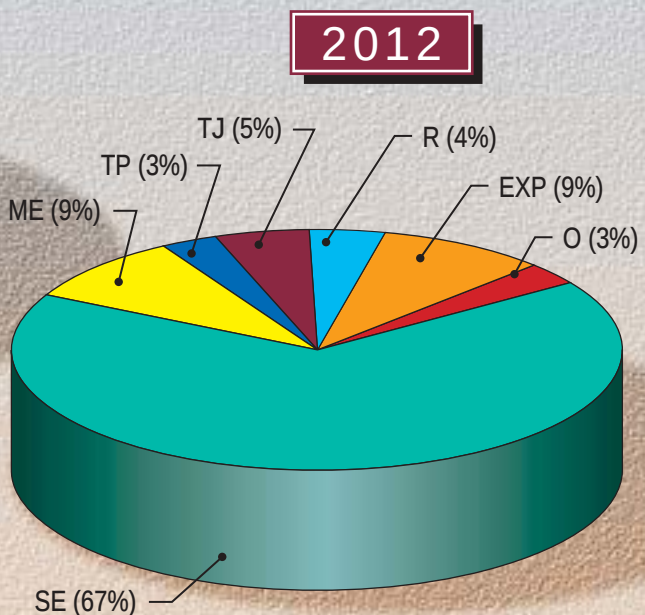
ACTIVE GENERAL AVIATION AIRCRAFT



Source: FAA Aerospace Forecasts, FY 2001-2012; Long Range Aerospace Forecasts

PERCENT BY AIRCRAFT TYPE





SE	Single-Engine Piston	R	Rotorcraft
ME	Multi-Engine Piston	EXP	Experimental
TP	Turboprop	O	Other
TJ	Turbojet		

CHINO AIRPORT

Exhibit 2A
U.S. ACTIVE GENERAL AVIATION AIRCRAFT FORECASTS

3.0 percent annually to 2013 and 2.2 percent annually from 2013 to 2025. General aviation hours flown are forecast to increase 1.2 percent annually through 2025.

AIRPORT SERVICE AREA

The local airport service area is defined by the proximity of other airports and the facilities that they are able to provide to general aviation aircraft. General aviation service areas are very closely defined as the result of nearby airports providing similar aircraft tiedown, fuel, and hangar services. The Inventory chapter detailed all public-use airports within 20 nautical miles of Chino airport. These airports provide a wide range of tiedown, fuel, hangar, and general aviation services. Considering that the services at each airport vary according to local conditions (hangar, fuel, and tiedown rates, hangar availability, etc.), the service area for Chino Airport is not considered to exactly follow the boundaries of any jurisdictional unit and is affected by many of the factors detailed above. The availability and cost of aircraft storage facilities is an important factor in determining based aircraft demand.

A review of aircraft ownership for based aircraft at Chino Airport was made to gain an understanding of the existing service area for based aircraft demand. Using based aircraft records provided by airport administration, it was determined that the majority of based aircraft are owned by residents of communities in southwestern San Bernardino County, western Los Angeles County, northwestern Riverside County, and Orange County. In San Bernardino County this includes the communities of Ontario, Chino, Chino Hills, Upland, and Montclair. In Los Angeles County, this includes communities such as Pomona and Diamond Bar, which are located within close proximity to Chino Airport and communities farther west such as Arcadia and Alhambra. Communities in Riverside County include Riverside, Norco, and Corona.

The service area for Chino Airport is expected to extend across a wide portion of Orange County and contribute significantly to the based aircraft demand. Based aircraft owners listed their residence in eastern Orange County communities such as Anaheim, Orange, and Yorba Linda. However, a number of based aircraft owners listed their residence as far west as Huntington Beach and as far south as San Clemente and Dana Point, including all the communities between.

A smaller number of aircraft owners base aircraft at Chino Airport while living in communities much farther west. This includes communities such as Manhattan Beach and Santa Monica.

Defining the service area in a large metropolitan area is difficult since airport service areas commonly overlap, as is the case with Chino Airport which draws aircraft from a large portion of the eastern metropolitan area. Typically, aircraft owners base their aircraft at a particular airport due to its proximity to their residence or business. As shown above, this is true for Chino Airport where residents of nearby

communities choose to base their aircraft at Chino Airport. However, Chino Airport draws significantly from communities in Orange County which are a farther distance than some communities in Los Angeles County, Riverside County, and San Bernardino County, which are closer to Chino Airport. This is most likely due to the lack of available general aviation facilities in Orange County and the number of available general aviation facilities in northeast Los Angeles County, northwestern Riverside County, and southwestern San Bernardino County. Orange County is served by Fullerton Airport and John Wayne Airport. Residents in northeastern Los Angeles County and southeastern San Bernardino County can choose between Brackett, El Monte, Cable, Rialto/Miro, Chino, and Ontario International Airport. Northwestern Riverside County is served by Riverside Airport and Corona Airport.

Considering these factors, a generalized service area for Chino Airport has been determined and is shown on **Exhibit 2B**. The service area is projected to include the communities south of Interstate Highway 10, extending west to Highway 605, and south along Interstate Highway 5 to the Orange County limits. To the east, the service area is expected to extend to Highway 215 and along the Highway 91 corridor.

As in any business, the more attractive the facility in services and capabilities, the more competitive it will be in the market place. If the airport's attractiveness increases in relation to nearby airports, so will the size of the service area. For Chino Airport, this can include the availability and cost of hangar facilities. The availability of hangar facilities could draw (and more than likely has drawn) aircraft from Orange County, where the demand for hangar facilities is greater than the number of hangars available.

SOCIOECONOMIC PROJECTIONS

Population, household, and employment growth provide an indication of the potential for sustaining growth in aviation activity over the planning period. Forecasts for the City of Chino, City of Ontario, Orange County, and San Bernardino County have been collected for this analysis. The growth for the City of Chino and City of Ontario will be impacted, in part, by the transition in land uses adjacent to the airport as the Chino Valley Dairy Preserve is converted to residential, commercial, and industrial land uses. Orange County and San Bernardino County growth factors are also considered since Chino Airport serves a portion of the Orange County aviation demand and the Inland Empire.

Table 2A summarizes historical and forecast population numbers for these areas. As shown in the table, the San Bernardino County population is expected to grow the strongest through 2025. The San Bernardino County population is expected to grow at an average annual rate of 2.1 percent through 2025, while Orange County, the City of Chino, and City of Ontario are projected to grow at 2.0 percent, 1.2 percent, and 1.0 percent annually, respectively.

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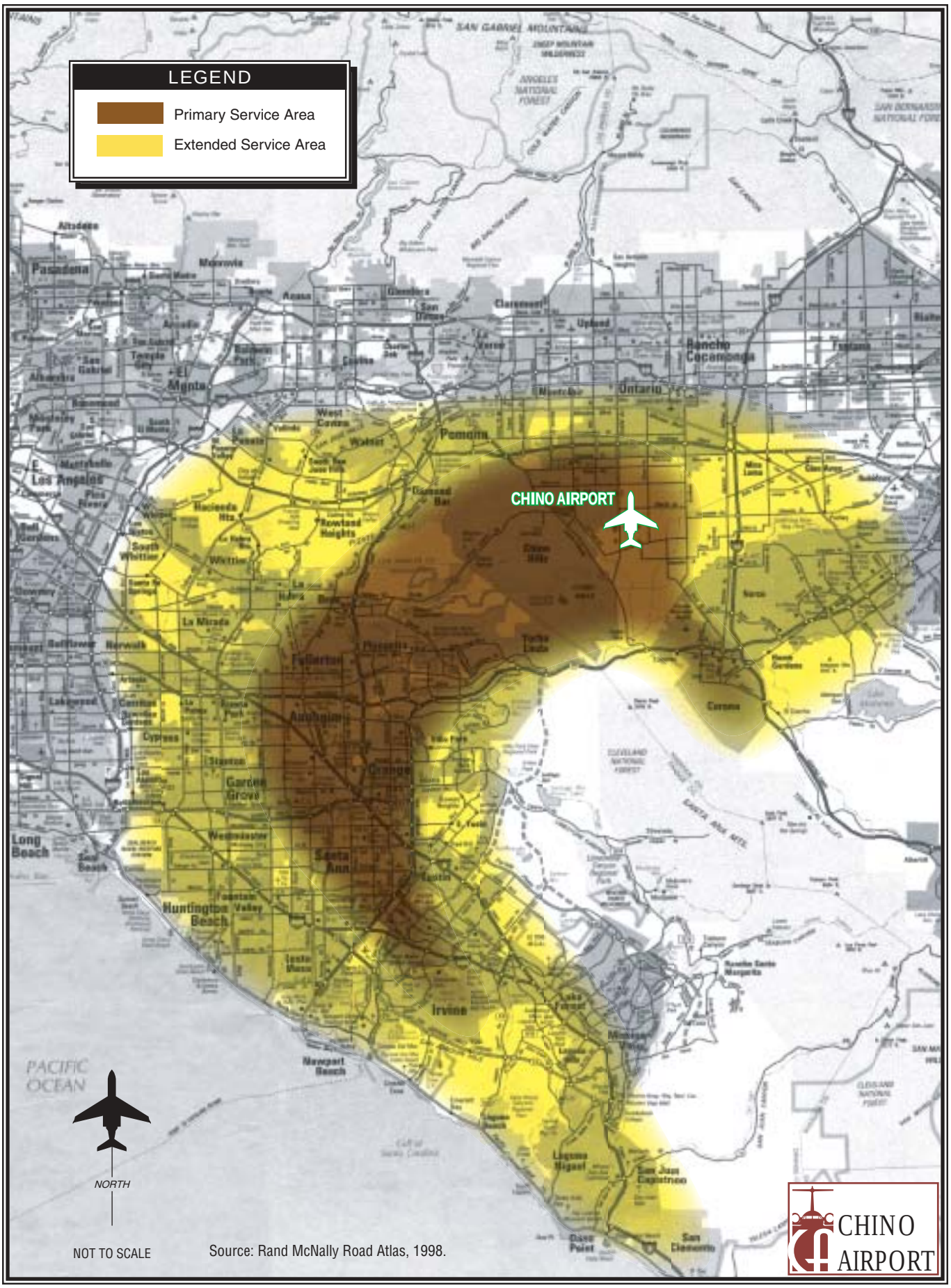

Exhibit 2B
AIRPORT SERVICE AREA

TABLE 2A
Forecast Population
City of Chino, City of Ontario, Orange County, San Bernardino County

Year	City of Chino	City of Ontario	Orange County	San Bernardino
HISTORICAL				
2000	67,168	151,500	2,828,400	1,689,300
FORECAST				
2005	69,513	155,820	3,003,179	1,853,128
2010	73,384	162,795	3,160,512	2,042,914
2015	77,576	170,449	3,272,412	2,255,609
2020	82,731	179,837	3,352,947	2,509,417
2025	89,394	193,070	3,426,458	2,815,986
Avg. Annual Growth Rate	1.1%	1.0%	2.0%	2.1%

Source: Southern California Association of Governments (SCAG).

Table 2B summarizes forecast total households. Similar to forecast population growth, San Bernardino County is projected to grow at a stronger rate than Orange County or the City of Chino or City of Ontario. Total households in San Bernardino County are projected to grow at an average annual rate of 2.1 percent. Total households in Orange County are projected to grow at an average annual rate of 0.7 percent, while the City of Chino and City of Ontario households are projected to experience a 1.2 percent and 0.8 percent annually, respectively.

Table 2C presents total employment projections. Total employment is projected to grow at much stronger rates than population or households. Total employment is projected to grow at 4.3 percent annually in the City of Chino. For the City of Ontario, total employment is projected to grow at 2.5 percent annually. In Orange County and San Bernardino County, total employment is projected to grow at 1.6 percent and 2.7 percent annually, respectively.

Population, households, and total employment growth for the areas near Chino Airport have also been considered. The land use plans for converting the Chino Valley Dairy Preserve from primarily agricultural land uses to residential, commercial, and industrial land uses could significantly benefit Chino Airport as Chino Airport would be ideally situated to support the residential and business growth. The Chino Valley Dairy Preserve comprises the majority of Census Tract 19 in San Bernardino County and includes the areas being annexed by the City of Ontario and City of Chino.

TABLE 2B
Forecast Total Households
City of Chino, City of Ontario, Orange County, San Bernardino County

Year	City of Chino	City of Ontario	Orange County	San Bernardino
HISTORICAL				
1997	17,012	67,473	887,657	508,247
FORECAST				
2005	18,534	44,289	966,122	581,811
2010	19,711	46,026	1,009,370	645,266
2015	20,883	47,783	1,035,379	717,248
2020	22,218	49,884	1,054,849	799,549
2025	24,078	53,066	1,073,131	900,976
Avg. Annual Growth Rate	1.2%	0.8%	0.7%	2.1%

Source: SCAG.

TABLE 2C
Forecast Total Employment
City of Chino, City of Ontario, Orange County, San Bernardino County

Year	City of Chino	City of Ontario	Orange County	San Bernardino
HISTORICAL				
1997	23,530	42,092	1,322,494	508,247
FORECAST				
2005	46,749	84,756	1,666,732	713,976
2010	57,611	103,032	1,798,090	858,002
2015	63,966	113,216	1,888,935	942,503
2020	69,822	122,261	1,980,067	1,018,649
2025	76,492	132,472	2,052,093	1,102,506
Avg. Annual Growth Rate	4.3%	2.5%	1.6%	2.7%

Source: SCAG.

Table 2D summarizes population, households, and total employment growth for Census Tract 19 through 2025. As shown in the table, the population of this area is projected to grow at an average annual rate of 4.7 percent. Total households and total employment are projected to grow at an average annual rate of 5.5 percent and 3.9 percent, respectively.

TABLE 2D
Forecast Population, Households, Total Employment
Census Tract 19, San Bernardino County

Year	Population	Households	Employment
HISTORICAL			
1997	11,075	2,739	2,190
FORECAST			
2005	16,640	4,858	3,276
2010	19,112	5,553	4,996
2015	24,736	7,509	5,817
2020	31,403	9,645	5,566
2025	39,852	12,395	6,442
Avg. Annual Growth Rate	4.7%	5.5%	3.9%

Source: SCAG.

COMPARATIVE FORECASTS

Forecasts of future aviation activity at Chino Airport have been prepared independently by the FAA and Southern California Association of Governments (SCAG).

For Chino Airport, the FAA provides forecasts within their *Terminal Area Forecast (TAF)* document for based aircraft and annual operations. These are updated annually by the FAA based upon current trends and typically updated when new planning forecasts are prepared for master plan studies. The current FAA TAF forecasts for Chino Airport are summarized in **Table 2E**. While these projections are developed for each year through 2015, only the five-year incremental projection is included in the table. The TAF was prepared with a base year of 2000. The TAF projects based aircraft and annual operations to grow at 0.7 percent annually though 2015. Both these forecast levels will be compared to forecasts prepared for this master plan later in this report.

TABLE 2E
FAA Terminal Area Forecast

	2000	2005	2010	2015
Based Aircraft	840	902	965	1,029
Annual Operations	159,804	168,796	180,761	192,726

Source: *2001-2015 FAA Terminal Area Forecasts.*

Forecasts for airports in the SCAG region were recently prepared by SCAG and summarized in the document titled *General Aviation Forecasts for the SCAG Region*. This document provided forecasts for the years 2015 and 2020, using 1997 base year data. **Table 2F** summarizes based aircraft and annual operations forecasts for Chino Airport prepared by SCAG. SCAG projects based aircraft to grow at 0.8 percent annually through 2020 and annual operations to grow at 1.0 percent annually through 2020.

TABLE 2F
SCAG Forecasts for Chino Airport

	1997	2015	2020
Based Aircraft	940	1,109	1,164
Annual Operations	194,818	243,523	260,448

Source: *General Aviation Forecasts for the SCAG Region*

FORECASTING APPROACH

The development of aviation forecasts proceeds through both analytical and judgmental processes. A series of mathematical relationships is tested to establish statistical logic and rationale for projected growth. However, the judgement of the forecast analyst, based upon professional experience, knowledge of the aviation industry, and assessment of the local situation, is important in the final determination of the preferred forecast.

The most reliable approach to estimating aviation demand is through the utilization of more than one analytical technique. Methodologies frequently considered include trend line/time-series projections, correlation/ regression analysis, and market share analysis.

Trend line/time-series projections are probably the simplest and most familiar of the forecasting techniques. By fitting growth curves to historical data, then extending them into the future, a basic trend line projection is produced. A

basic assumption of this technique is that outside factors will continue to affect aviation demand in much the same manner as in the past. As broad as this assumption may be, the trend line projection does serve as a reliable benchmark for comparing other projections.

Correlation analysis provides a measure of direct relationship between two separate sets of historic data. Should there be a reasonable correlation between the data sets, further evaluation using regression analysis may be employed.

Regression analysis measures statistical relationships between dependent and independent variables yielding a "correlation coefficient." The correlation coefficient (Pearson's "r") measures association between the changes in a dependent variable and independent variable(s). If the "r-squared" value (coefficient determination) is greater than 0.95, it indicates good predictive reliability. A value less than 0.95 may be used, but with the understanding that the predictive reliability is lower.

Market share analysis involves a historical review of the airport activity as a percentage, or share, of a larger regional, state, or national aviation market. A historical market share trend is determined providing an expected market share for the future. These shares are then multiplied by the forecasts of the larger geographical area to produce a market share projection. This method has the same limitations as trend line projections, but can provide a useful check on the validity of other forecasting techniques.

It is important to note that one should not assume a high level of confidence in forecasts that extend beyond five years. Facility and financial planning usually require at least a 10-year preview, since it often takes more than five years to complete a major facility development program. However, it is important to use forecasts which do not overestimate revenue-generating capabilities or understate demand for facilities needed to meet public (user) needs.

AVIATION ACTIVITY FORECASTS

To determine the types and sizes of facilities that should be planned to accommodate general aviation activity, certain elements of the activity must be projected. Indicators of general aviation demand include:

- Based Aircraft
- Based Aircraft Fleet Mix
- Annual Operations
- Peak Activity
- Annual Instrument Approaches

The remainder of this chapter will examine historical trends with regard to these areas of general aviation activity and project future demand for these segments of general aviation activity at the airport.

BASED AIRCRAFT FORECASTS

The number of based aircraft is the most basic indicator of general aviation

demand at an airport. By first developing a forecast of based aircraft, the growth of other factors can be projected. Based aircraft at Chino Airport have grown since 1990, when there were 792 based aircraft. In 1995, based aircraft had grown to 840. By 2000, based aircraft totaled 947. For 2001, based aircraft reached 968. Between 1990 and 2001, over 176 based aircraft were added at Chino Airport. This equates to an average annual growth rate of 1.8 percent.

The based aircraft total at Chino Airport includes a wide variety of standard general aviation aircraft and vintage aircraft (most of which are based at the two aircraft museums operating at Chino Airport). Standard general aviation aircraft include single and multi-engine piston engine aircraft such as the Cessna 172 and Beechcraft Baron, and turboprop and turbojet aircraft such as the Beechcraft King Air and Cessna Citation. The vintage aircraft include a wide range of aircraft from World War I and World War II. In 2001, there were171 vintage aircraft based at Chino Airport. Most of these aircraft were maintained in operational condition. Therefore, the museum and other vintage aircraft based at Chino Airport have been included in the based aircraft totals. This also provides comparison to historical based aircraft totals which have included the vintage aircraft in annual counts.

The first step in developing forecasts of based aircraft involved the use of time-series and regression analyses. The time-series analysis used historical based aircraft totals since 1990. The time-series analysis yielded a correlation coefficient of only 0.29. Using historical population totals for San Bernardino County and the Cities of Chino and Ontario, a series of regression analyses were performed. Similar to the time-series analysis, the regression analysis yielded correlation coefficients below 0.30. None of these forecasts were carried forward in the study as they are not considered reliable enough for forecasting purposes due to their low correlation coefficients. Therefore, forecasts of based aircraft at Chino Airport have been prepared by examining the airport's share of U.S. active aircraft and as a ratio of the population within the City of Ontario and City of Chino.

Table 2G compares historical based aircraft at Chino Airport and historical U.S. active aircraft. As shown in the table, the percentage of U.S. active general aviation aircraft based at Chino Airport has increased from 0.39 percent in 1990 to 0.43 percent in 2000.

To gain an understanding of future based aircraft at Chino Airport considering growth projected nationally, two market share forecasts (a constant share of U.S. active aircraft forecast and an increasing share of U.S. active aircraft forecast) have been prepared. The constant share forecast assumes that based aircraft will continue to grow at the same rate as U.S. active aircraft and applies the 2000 Chino Airport market share of 0.43 percent to projected U.S. active aircraft prepared by the FAA. As shown in the table, this forecast yields 1,168 based aircraft in 2025.

TABLE 2G
Chino Airport Share of U.S. Active Aircraft

Year	U.S. Active Aircraft	Chino Airport Based Aircraft	% of U.S. Active Aircraft
HISTORICAL			
1990	205,000	792	0.39%
1995	188,089	840	0.45%
2000	221,213	947	0.43%
CONSTANT SHARE OF U.S. ACTIVE AIRCRAFT			
2005	232,500	995	0.43%
2010	242,300	1,037	0.43%
2015	252,000	1,079	0.43%
2025	272,800	1,168	0.43%
INCREASING SHARE OF U.S. ACTIVE AIRCRAFT			
2005	232,500	1,046	0.45%
2010	242,300	1,137	0.47%
2015	252,000	1,235	0.49%
2025	272,800	1,414	0.52%

Source for Historical Based Aircraft Data: 1990, 1995 FAA, TAF/2000 - Caltrans
Source for Historical and Forecast U.S. Active Aircraft: FAA Aerospace Forecasts, Selected Years; FAA Long Range Aerospace Forecasts

An increasing share forecast of U.S. active aircraft was also considered. This is consistent with the historical trend at Chino Airport which has increased it's market share 0.04 percent since 1990. Applying an increasing share to forecast U.S. active aircraft yields 1,414 based aircraft at Chino Airport in 2025.

A second forecast examined historical based aircraft totals to residents in the City of Chino and City of Ontario. This forecasting technique examined historical based aircraft as a ratio of 1,000 residents. For the year 2000, the City of Chino and City of Ontario had a combined population of 218,200, or 4.3 based aircraft per 1,000 residents. As shown in **Table 2H**, assuming a constant ratio of 4.3 aircraft per 1,000 residents yields 1,226 aircraft in 2025. This results in based aircraft growing at the same rate as the local population. Assuming the ratio of based aircraft to 1,000 residents increases gradually throughout the planning period yields 1,328 based aircraft at Chino Airport in 2025.

A final forecast projected based aircraft growing at an annual rate of 1.8 percent through 2025. This represents the growth rate experienced at Chino Airport from 1990 to 2001. This resulted in based aircraft growing to 1,484 by 2025.

Other resources used for comparative purposes include the *2000 FAA TAF* and *General Aviation Forecasts for the SCAG Region*. These forecasts are summarized in **Table 2J**.

TABLE 2H
Chino Airport Ratio of Based Aircraft to Residents

Year	Chino Airport Based Aircraft	Chino/Ontario Combined Population	Based Aircraft per 1,000 Residents
HISTORICAL			
1990	792	192,861	4.1
1995	840	204,300	4.1
2000	947	218,200	4.3
CONSTANT RATIO OF BASED AIRCRAFT PER 1,000 RESIDENTS			
2005	978	225,333	4.3
2010	1,025	236,179	4.3
2015	1,076	248,025	4.3
2025	1,226	282,464	4.3
INCREASING RATIO OF BASED AIRCRAFT PER 1,000 RESIDENTS			
2005	991	225,333	4.4
2010	1,063	236,179	4.5
2015	1,141	248,025	4.6
2025	1,328	282,465	4.7

Source for Historical Based Aircraft Data: 1990, 1995 FAA, TAF/2000 - Caltrans
Source for Historical and Forecast Population: SCAG

Based Aircraft
Forecast Summary

A summary of all forecasts for based aircraft at Chino Airport and the selected planning forecast is presented in **Table 2J** and **Exhibit 2C**. As shown on the exhibit, the combination of forecasts represent a "forecast envelope." The forecast envelope represents the area in which future based aircraft at Chino Airport should be found. The constant share of U.S. active aircraft forecast represents the lower end of the planning envelope. The 1990-2001 historical growth rate forecast represents the upper end of the forecast envelope. The FAA TAF forecast lies below the forecast envelope, while the SCAG lies near the bottom of the forecast envelope.

In evaluating the forecasts, the constant share of U.S. active aircraft forecast appears to be too conservative considering historical growth trends at the airport. This forecast yields 200 based aircraft through the planning period. In the past 11 years, 176 based aircraft have been added at Chino

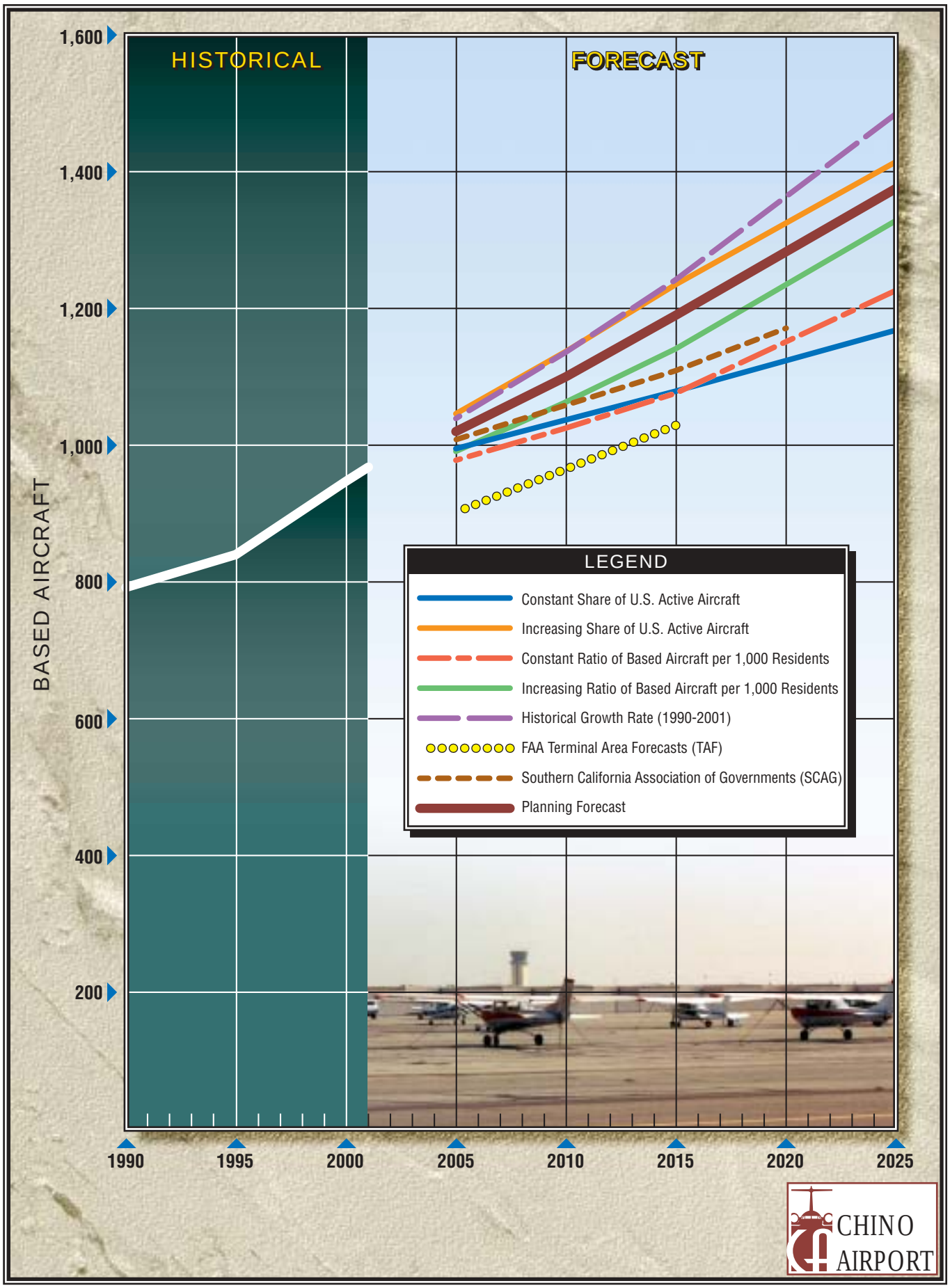

Exhibit 2C
BASED AIRCRAFT FORECASTS

Airport. Similarly, the constant ratio of aircraft per 1,000 residents forecast appears too conservative. This forecast adds 258 aircraft over the next 24 years.

TABLE 2J
Based Aircraft Forecast Summary

	HISTORICAL		FORECAST			
	2000	2001	2005	2010	2015	2025
Constant Share of U.S. Active Aircraft			995	1,037	1,079	1,168
Increasing Share of U.S. Active Aircraft			1,046	1,137	1,235	1,414
Constant Ratio of Based Aircraft per 1,000 Residents			978	1,025	1,076	1,226
Increasing Ratio of Based Aircraft per 1,000 Residents			991	1,063	1,141	1,328
Historical Growth Rate (1990-2001)			1,039	1,136	1,242	1,484
FAA Terminal Area Forecast (TAF)			902	965	1,029	N/A
SCAG[1]			N/A	N/A	1,109	N/A
Planning Forecast	947	968	1,020	1,100	1,190	1,375

[1] SCAG projected 1,164 based aircraft in 2020.

While the increasing ratio of aircraft per 1,000 residents forecast projected 360 new based aircraft at the airport by 2025, this forecast may underestimate growth potential for Chino Airport. Since most based aircraft owners prefer to base their aircraft close to their residence or business, Chino Airport should benefit from the transition of land uses within the Chino Valley Dairy Preserve. It can be expected that as the regional population and economy grows within the based aircraft service area, the number of based aircraft will grow as well. The large service area the airport enjoys increases the potential for new based aircraft at the airport. This includes drawing aircraft from Orange County and portions of Riverside County and Los Angeles County.

However, the increasing share of U.S. Active Aircraft and historical growth rate forecast may overstate growth potential. These forecasts project 446 and 516 new based aircraft by 2025, respectively. Since 1980, Chino Airport has added 342 new based aircraft.

For these reasons, a planning forecast has been determined which lies midway between the increasing ratio of based aircraft per 1,000 residents and increasing share of U.S. active aircraft. This forecast projects over 400 new based aircraft at the airport by 2025. While near the top of the planning envelope, this forecast appears to be the most reasonable for the master plan due, in part, to the historical growth trends (1980 to 2001) and projected

population, households, and employment growth for the region. As mentioned previously, total population, households, and employment are projected to grow at annual rates between 1.0 and 2.0 percent annually through 2025 for the City of Chino, City of Ontario, Orange County, and San Bernardino County. The planning forecast projects based aircraft growing at 1.5 percent annually through 2025.

The FAA TAF clearly underestimates the number of based aircraft by determining growth from a 2000 base year number of 840, which is 107 aircraft below the actual based aircraft total of 947. The SCAG forecast is too conservative considering historical growth at Chino Airport.

As mentioned previously, there were 171 vintage aircraft based at Chino Airport in 2001. This represented approximately 17 percent of the total based aircraft. In contrast to standard general aviation aircraft, the vintage aircraft are no longer in production; therefore, there are no historical growth trends or projections to easily identify a future growth rate for these aircraft. However, it can be assumed that additional vintage aircraft will be based at the airport through the planning period as the aviation museums expand and private ownership of these aircraft expands; particularly with the availability of vintage military aircraft from Europe and Asia. To account for these possibilities, vintage aircraft are projected to grow at 0.5 percent annually, or by one aircraft each year. **Table 2K** summarizes projected vintage aircraft and standard general aviation aircraft based aircraft totals through the planning period.

TABLE 2K
Vintage Aircraft/Standard General Aviation Aircraft Split

Year	Vintage Aircraft	Standard General Aviation Aircraft	Total Based Aircraft
HISTORICAL			
2001	171	797	968
FORECASTS			
2005	175	845	1,020
2010	180	920	1,100
2015	185	1,005	1,190
2025	195	1,180	1,375

BASED AIRCRAFT FLEET MIX PROJECTION

Knowing the aircraft fleet mix expected to utilize the airport is necessary to properly plan facilities that will best serve the level of activity and the type of activities occurring at the airport. The existing standard general aviation based aircraft fleet mix is comprised of single-engine piston aircraft, multi-engine piston aircraft, turboprop, turbojet, and helicopters.

Projections for the standard general aviation based aircraft fleet mix considers national trends. As previously mentioned, the FAA anticipates strong growth in active turbine-powered aircraft. This trend illustrates the movement in the general aviation community towards more sophisticated, higher-performing, and more demanding aircraft for business purposes. The FAA projects growth in turbine-powered aircraft to outpace growth in all other components of the active aircraft fleet. As mentioned previously, turbine-powered aircraft are expected to grow at an average annual rate of 3.0 percent through 2012 and 2.2 percent from 2013 to 2025.

The projected trend of based aircraft at Chino Airport includes a growing number of single-engine piston aircraft and multi-engine piston aircraft at the airport; however, the single-engine piston percentage of total based aircraft is expected to remain static while the multi-engine share of total based aircraft is expected to decline through the planning period. Turbine-powered aircraft are expected to increase in number and as a percentage of total based aircraft through the planning period, consistent with national projections. Helicopters are expected to decline as a percentage of total based aircraft. The based aircraft fleet mix projection for Chino Airport is summarized in **Table 2L** and **Exhibit 2D**.

TABLE 2L
Based Aircraft Fleet Mix Forecast
(Standard General Aviation Aircraft)

Year	Total	Single-Engine Piston	Multi-Engine Piston	Turboprop	Jet	Helicopter
HISTORICAL						
2001	797	562	148	36	28	23
FORECAST						
2005	845	596	155	39	31	24
2010	920	649	167	43	36	25
2015	1,005	709	181	48	41	26
2025	1,180	832	209	59	53	27

ANNUAL OPERATIONS

The airport traffic control tower (ATCT) located on the airport collects information regarding aircraft operations (takeoffs and landings). Aircraft operations are reported in three general categories: air taxi, general aviation, and military. Air taxi operations consist of the use of general aviation aircraft for "on-demand" commercial transport of persons and property in accordance with Federal Aviation Regulation (F.A.R.) Part 135. General aviation operations include a wide range of activity ranging from personal to business and corporate uses. Military operations include those

operations conducted by various branches of the U.S. military.

Aircraft operations are further classified as local and itinerant. A local operation is a takeoff or landing performed by an aircraft that operates within sight of the airport, or which executes simulated approaches or touch-and-go operations at the airport. Itinerant operations are those performed by aircraft with a specific origin or destination away from the airport. Generally, local operations are characterized by training operations. Typically, itinerant operations increase with business and commercial use since business aircraft are used primarily for transportation from one location to another.

Table 2M summarizes historical operations at Chino Airport since 1990. As evident in the table, with the exception of air taxi operations, total operations have declined at the airport. The largest decline has been in local general aviation operations. In 2001, local general aviation operations declined 47 percent below the 1990 level of 122,078. Transient general aviation activity declined by 30 percent between 1990 and 2001.

TABLE 2M
Historical Annual Operations

	Itinerant				Local			
Year	Air Taxi	General Aviation	Military	Total Itinerant	General Aviation	Military	Total Local	Total Operations
1990	135	115,484	850	116,469	122,078	735	122,813	239,282
1991	333	122,405	992	123,730	107,102	110	107,212	230,942
1992	369	115,267	1,224	116,860	96,326	101	96,427	213,287
1993	351	107,733	938	109,022	85,490	204	85,694	194,716
1994	1,188	122,709	1,170	125,067	79,849	158	80,007	205,074
1995	263	105,659	1,039	106,961	73,287	32	73,319	180,280
1996	93	112,905	356	113,354	73,758	239	73,997	187,351
1997	102	118,609	334	119,045	75,765	8	75,773	194,818
1998	300	115,537	248	116,085	74,240	38	74,278	190,363
1999	193	101,329	320	101,842	76,065	247	76,312	178,154
2000	224	84,754	249	85,227	75,445	57	75,502	160,729
2001	349	80,451	115	80,915	64,548	28	64,576	145,491

Source: FAA Air Traffic Activity Data System (ATADS)

The decline in military operations can be attributed to Lockheed discontinuing operations at the airport. When operating at the airport, Lockheed retrofitted military C-130 aircraft. The decline in general aviation activity is more difficult to define. Local operations are affected by the number of flight training companies at the airport. According to airport management, the number of flight schools and flight school activity has declined at the airport.

A review of other general aviation towered airports in the metropolitan

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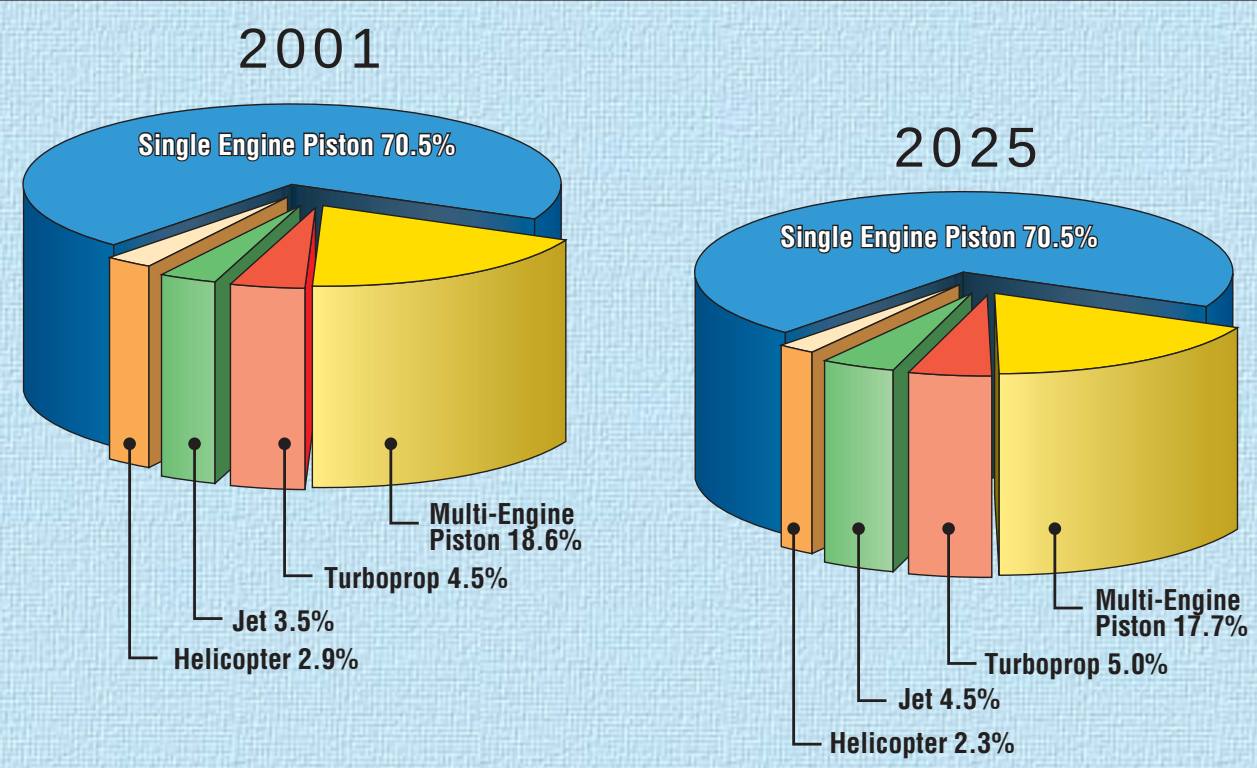
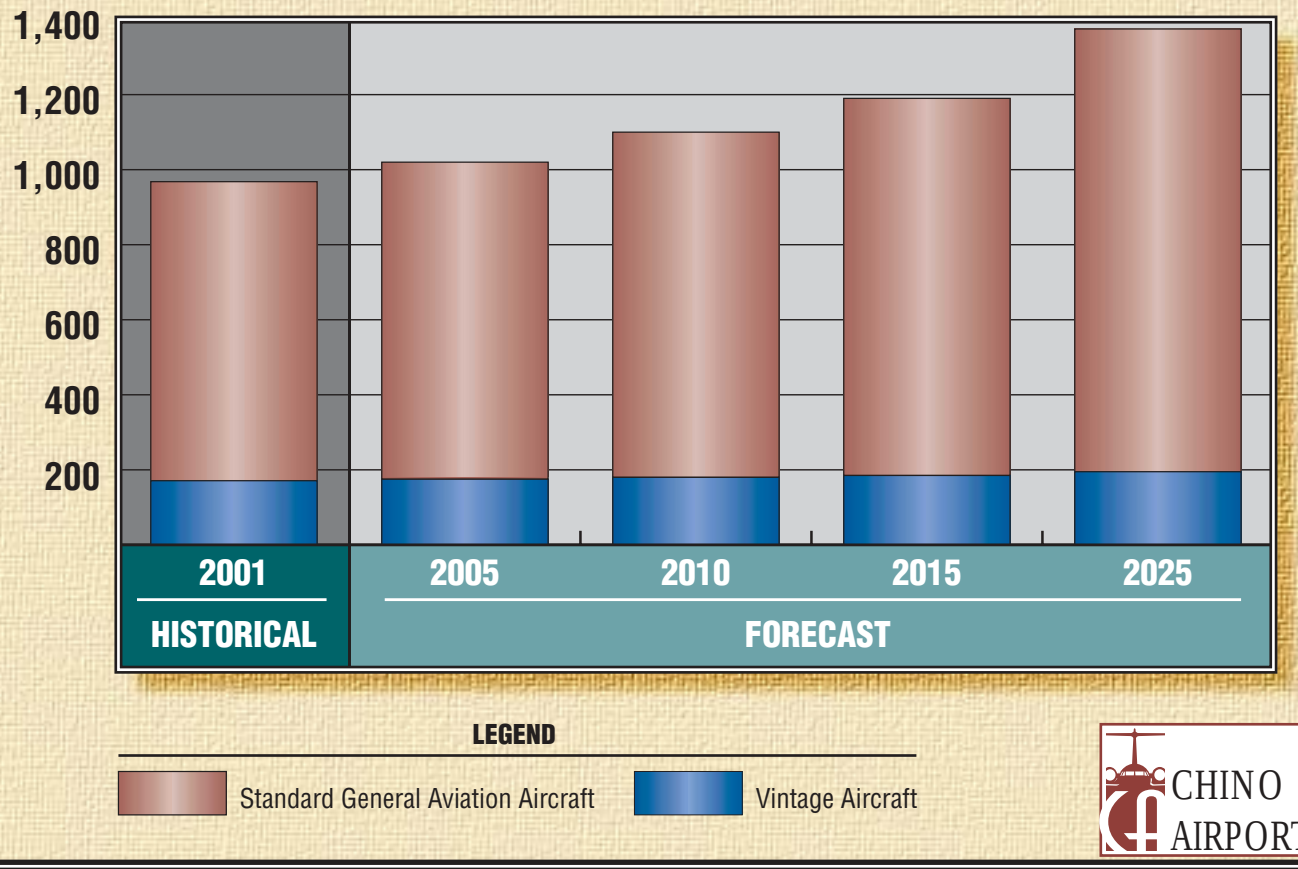
FLEET MIX FORECAST - STANDARD GENERAL AVIATION AIRCRAFT



VINTAGE AIRCRAFT/STANDARD GENERAL AVIATION AIRCRAFT SPLIT



CHINO AIRPORT

Exhibit 2D
BASED AIRCRAFT FLEET MIX

area indicates a similar pattern of declining general aviation activity over the same period. Other towered general aviation airports in the region include Brackett Field, El Monte, Hawthorne, Santa Monica, Van Nuys, Whiteman, Zamperini Field, Fullerton, and Riverside. With the exception of Van Nuys Airport and Brackett Field, which experienced increases in general aviation itinerant activity, these airports experienced declines in both local and itinerant general aviation activity. Van Nuys Airport and Brackett Field experienced declines in local operations. Local operations declined between 27 percent and 49 percent at these airports. The decline in itinerant activity was more varied, ranging between a decline of 8.4 percent and 45 percent.

Year 2001 activity may have been affected by the events of September 11, 2001. Airports were closed nearly a week after September 11, 2001. Airports within Class B airspace were affected much longer. However, when examining the 1990 to 2000 period, a similar decline in general aviation itinerant and local activity is discovered.

Therefore, it can be assumed that Chino Airport is not experiencing a unique situation. General aviation activity across the metropolitan region has mostly declined over the past decade. A number of factors may have contributed to this, including fuel prices, airspace congestion, and airspace complexity.

At Chino Airport, transient operations have represented a higher percentage of total annual operations than local operations. According to the operational counts completed by the ATCT, transient operations have represented approximately 58 percent of total operations since 1995. Local operations represented the remaining 42 percent of total operations.

Projections of annual operations have been developed by examining the number of operations per based aircraft. Two forecasts of operations per based aircraft have been developed. First, a constant, or static, level of 150 operations per based aircraft was applied to forecast based aircraft. As shown in **Table 2N**, this yields 206,300 total operations at Chino Airport by 2025. This projection results in annual operations growing at the same rate as based aircraft.

Next, an increasing number of operations per based aircraft was developed. The FAA projects activity at towered airports to increase at an average annual rate of 1.2 percent. Applying this growth rate to the 2000 level of 150 operations per based aircraft yields 198 operations per based aircraft in 2025, or 272,300 operations.

Previous forecasts have been examined for comparative purposes. The 2000 FAA TAF projects annual operations growing to 192,726 by 2015. SCAG projects annual operations reaching 260,448 by 2020.

The FAA projects an increase in aircraft utilization and the number of general aviation hours flown nationally. Therefore, it can be expected that there is potential for increased activity at the airport even though operations have

declined annually at the airport. With business and corporate use of general aviation activity increasing at a stronger rate than recreational uses, the potential for itinerant activity increases as business and corporate users are less affected by congested airspace and fuel prices. Activity at Van Nuys Airport and Brackett Airport indicate that itinerant activity can grow as local activity decreases.

Typically, operations per based aircraft range between 200 and 600 for active general aviation airports. For Chino Airport, it is evident that activity has declined to the lower portion of the range, indicating activity has bottomed-out at Chino Airport.

TABLE 2N
Forecast General Aviation Operations

		Itinerant		Local			
Year	Based Aircraft	Operations	% of Total Operations	Operations	% of Total Operations	Total Operations	Operations Per Based Aircraft
1990	792	115,484	48.6%	122,078	51.4%	237,562	300
1995	840	105,659	59.0%	73,287	41.0%	178,946	213
2000	947	84,754	52.9%	75,445	47.1%	160,199	169
2001	968	80,451	55.5%	64,548	44.5%	144,999	150
CONSTANT RATIO OF OPERATIONS PER BASED AIRCRAFT (PLANNING FORECAST)							
2005	1,020	87,200	57.0%	65,800	43.0%	153,000	150
2010	1,100	97,300	59.0%	67,700	41.0%	165,000	150
2015	1,190	110,700	62.0%	67,800	38.0%	178,500	150
2025	1,375	134,100	65.0%	72,200	35.0%	206,300	150
INCREASING RATIO OF OPERATIONS PER BASED AIRCRAFT							
2005	1,020	91,900	57.0%	69,300	43.0%	161,200	158
2010	1,100	109,000	59.0%	75,800	41.0%	184,800	168
2015	1,190	131,300	62.0%	80,500	38.0%	211,800	178
2025	1,375	177,000	65.0%	95,300	35.0%	272,300	198

Source for Historical Data: FAA Air Traffic Activity Data System (ATADS)

Considering these factors, the constant ratio of operations per based aircraft forecast appears to be the most applicable forecast for future general aviation activity at the airport. This forecast projects general aviation operations to grow at 1.5 percent annually. Itinerant operations are projected to grow from 58 percent of total operations to 65 percent of total operations by 2025 as shown in **Table 2N**. The operations forecast is summarized on **Exhibit 2E**.

Table 2P summarizes historical air taxi operations. As shown in the table, air taxi operations have generally increased since 1990. Strong growth is expected in this category as business and corporate use of general aviation aircraft increases. For planning purposes, air taxi operations are

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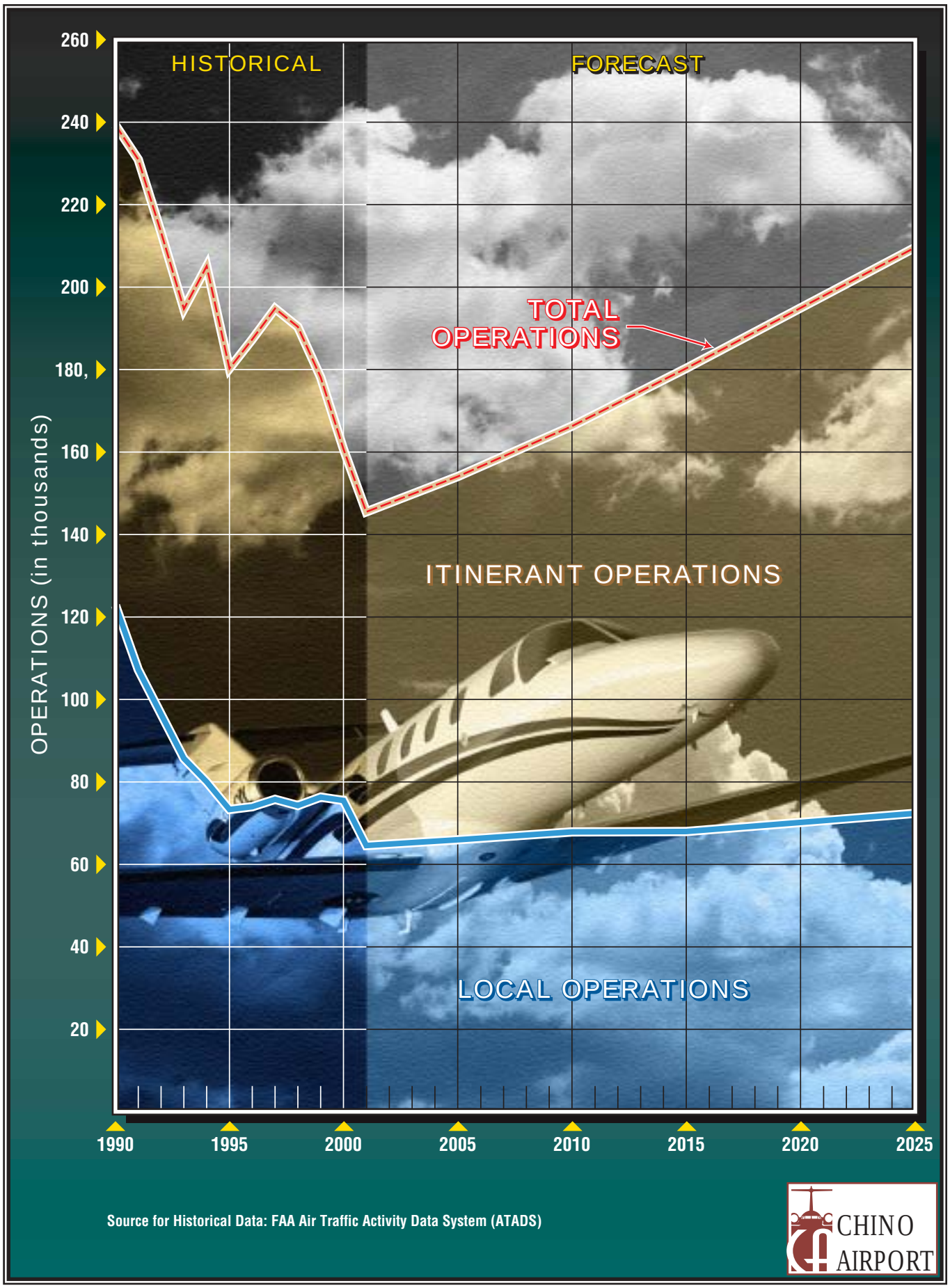

Source for Historical Data: FAA Air Traffic Activity Data System (ATADS)

CHINO AIRPORT

Exhibit 2E
ANNUAL OPERATIONS FORECAST

forecast to increase at 9.0 percent annually, consistent with the historical growth rate of air taxi operations.

TABLE 2P
Forecast Air Taxi Operations

Year	Air Taxi
HISTORICAL	
1990	135
1991	333
1992	369
1993	351
1994	1,188
1995	263
1996	93
1997	102
1998	293
1999	190
2000	224
2001	349
FORECAST	
2005	500
2010	700
2015	1,200
2025	2,700

Source for Historical Data: FAA Air Traffic Activity Data System (ATADS)

Military use of Chino Airport consists primarily of transient helicopter activity. In the past, military C-130 aircraft used the airport due to the Lockheed operations at the airport (Lockheed is no longer operating at the airport). As shown in **Table 2Q**, military activity at the airport has fluctuated annually from a high of 1,585 in 1990 to a low of 143 in 2001. Consistent with standard planning practices, military operations are forecast at static levels through the planning period since it is difficult to predict the pattern of military operations due to the ever-changing missions of military forces. Therefore, for planning purposes, military operations are forecast at 400 annual operations through the planning period with 300 attributable to transient operations and 100 attributable to local operations. This equals the average level of military operations since 1995.

Table 2R summarizes annual operational totals for Chino Airport through the planning period.

PEAKING CHARACTERISTICS

Many airport facility needs are related to the levels of activity during peak periods. The periods used in developing facility requirements for this study are as follows:

- **Peak Month -** The calendar month when peak activity occurs.
- **Design Day** - The average day in the peak month. This indicator is easily derived by dividing the peak month activity by the number of days in the month.
- **Busy Day** - The busy day of a typical week in the peak month.
- **Design Hour** - The peak hour within the design day.

It is important to note that only the peak month is an absolute peak within a given year. All other peak periods will be exceeded at various times during

the year. However, they do represent reasonable planning standards that can be applied without overbuilding or being too restrictive.

TABLE 2Q
Historical Military Operations

	Military Operations				
Year	Itinerant	%of Total	Local	%of Total	Total Military
1990	850	53.6%	735	46.4%	1,585
1991	992	90.0%	110	10.0%	1,102
1992	1,224	92.4%	101	7.6%	1,325
1993	938	82.1%	204	17.9%	1,142
1994	1,170	88.1%	158	11.9%	1,328
1995	1,039	97.0%	32	3.0%	1,071
1996	356	59.8%	239	40.2%	595
1997	334	97.7%	8	2.3%	342
1998	248	86.7%	38	13.3%	286
1999	320	56.4%	247	43.6%	567
2000	249	81.4%	57	18.6%	306
2001	115	80.4%	28	19.6%	143

Source: FAA Air Traffic Activity Data System (ATADS)

TABLE 2R
Forecast Annual Operations

	Itinerant				Local			
Year	Air Taxi	General Aviation	Military	Total Itinerant	General Aviation	Military	Total Local	Total Operations
HISTORICAL								
2001	349	80,451	115	80,915	64,548	28	64,576	145,491
FORECAST								
2005	500	87,200	300	90,300	65,800	100	67,700	153,900
2010	700	97,300	300	104,200	67,700	100	71,800	166,100
2015	1,200	110,700	300	122,500	67,800	100	74,300	180,100
2020	2,700	134,700	300	158,500	72,200	100	83,900	209,400

Source for Historical Data: FAA Air Traffic Activity Data System (ATADS)

Typically, the peak month for operations represents between 10-12 percent of the airport's annual operations. The peak month for recorded operations since 1990 has ranged between 9.1 percent and 10.5 percent of the annual total. For planning purposes, the peak month has been estimated at 10 percent of forecast annual operations The peak month in

2001 was August. The busy day in that month was approximately 25 percent higher than the average day. The forecast of busy day operations at the airport was calculated as 1.25 times design day activity. Design hour operations were calculated at 15.0 percent of design day operations. **Table 2S** summarizes peak activity forecasts for the airport.

TABLE 2S
Forecast of Peak Activity

	2001[1]	2005	2010	2015	2020
OPERATIONS					
Annual	145,491	153,900	166,100	180,100	209,400
Peak Month	14,280	15,400	16,600	18,000	20,900
Busy Day	574	640	689	748	868
Design Day	461	513	553	600	697
Design Hour	69	77	83	90	104
PASSENGERS (ESTIMATED)					
Annual	121,200	131,550	147,000	167,550	204,150
Peak Month	12,120	13,160	14,700	16,760	20,420
Design Day	404	439	490	859	681
Design Hour	61	66	73	84	102

[1] Peak Month, Busy Day, and Design Day represent actual operations, design hour estimated.

Estimates of the number of passengers have also been prepared. This equates to the number of pilots and aircraft passengers which board and/or deplane an aircraft using the airport and is essential in determining terminal building size. The number of passengers has been determined by applying a ratio of passengers to itinerant operations. This is estimated at 1.8 for 2000, growing to 2.2 by 2025, consistent with the expectations for a larger number of business jets (which have greater seating capacity) to use the airport. Peak period determinations were made using the peak period operational figures listed above.

ANNUAL INSTRUMENT APPROACHES

Annual instrument approach (AIA) data provides guidance in determining an airport's need for navigational aids. An instrument approach is defined by the FAA as an "approach to an airport with the intent to land by an aircraft in accordance with an instrument flight rule (IFR) flight plan, when visibility is less than three miles and/or when the ceiling is at or below the minimum initial approach altitude."

Historical instrument approach data for the airport is summarized in **Table 2T**.

Since 1995, annual instrument approaches have decreased annually, mirroring the decline in total operations. General aviation aircraft comprise the majority of AIAs at the airport.

On average, general aviation AIAs have represented 2.4 percent of annual general aviation itinerant operations. Military AIAs have represented 3.3 percent of annual military itinerant operations. Air taxi AIAs represented 4.6 percent of air taxi operations in 2001. While AIAs can be partially attributable to weather, they may be expected to increase as transient operations and operations by more sophisticated (and consequently properly equipped aircraft) increase through the planning period. The projections of AIAs for the airport are summarized in **Table 2T**.

TABLE 2T
Actual Instrument Approaches

Year	Air Taxi	General Aviation	Military	Total
HISTORICAL				
1995	5	3,008	65	3,078
1996	4	3,524	23	3,551
1997	0	2,632	11	2,643
1998	5	2,063	1	2,069
1999	5	2,797	10	2,812
2000	3	1,607	3	1,613
2001	16	1,900	3	1,919
FORECAST				
2005	23	2,100	10	2,133
2010	32	2,400	10	2,442
2015	55	2,700	10	2,765
2025	124	3,300	10	3,434

Source for Historical Data: FAA Air Traffic Activity Data System (ATADS).

SUMMARY

This chapter has provided forecasts for each sector of aviation demand anticipated over the planning period. **Exhibit 2F** presents a summary of the aviation forecasts developed for Chino Airport. Chino Airport is expected to experience increases in total based aircraft, annual operations, and turbine-powered aircraft use of the airport through the planning period, consistent with regional and national projections. The next step in this study is to assess the capacity of existing facilities to accommodate forecast demand and determine what types of facilities will be needed to meet these demands.

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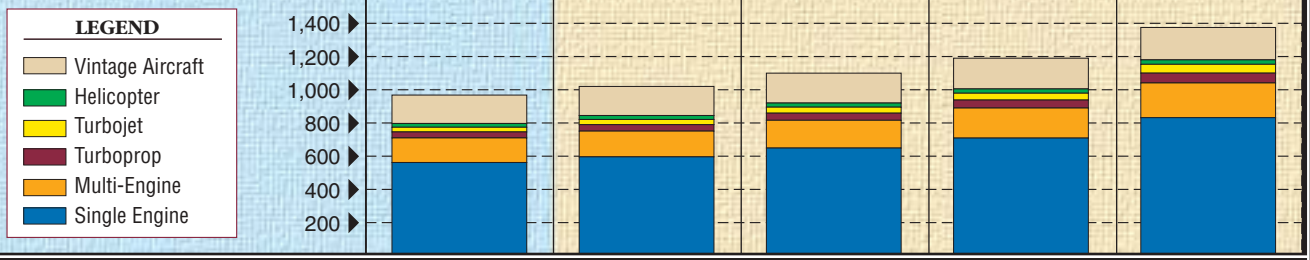
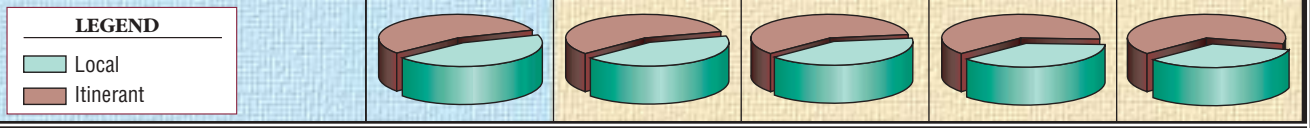
SUMMARY OF AVIATION ACTIVITY PLANNING HORIZONS

CATEGORY	Historical 2001	Forecasts 2005	2010	2015	2025
Standard GA Based Aircraft					
Single Engine Piston	562	596	649	709	832
Multi-Engine Piston	148	155	167	181	209
Turboprop	36	39	43	48	59
Turbojet	28	31	36	41	53
Helicopter	23	24	25	26	27
Subtotal	***797***	***845***	***920***	***1,005***	***1,180***
Vintage Based Aircraft	171	175	180	185	195
Total Based Aircraft	***968***	***1,020***	***1,100***	***1,190***	***1,375***



Annual Operations					
Itinerant Operations					
Air Taxi	349	500	700	1,200	2,700
General Aviation	80,451	87,200	97,300	110,700	134,100
Military	115	300	300	300	300
Subtotal Itinerant Operations	***80,915***	***88,000***	***98,300***	***112,200***	***137,100***
Local Operations					
General Aviation	64,548	65,800	67,700	67,800	72,200
Military	28	100	100	100	100
Subtotal Local Operations	***64,576***	***65,900***	***67,800***	***67,900***	***72,300***
Total Annual Operations	**145,491**	**153,900**	**166,100**	**180,100**	**209,400**



Total GA Operations	**144,999**	**153,000**	**165,000**	**178,500**	**206,300**
Total Military Operations	**143**	**400**	**400**	**400**	**400**
Annual Instrument Approaches					
Air Taxi	16	23	32	55	124
General Aviation	1,900	2,100	2,400	2,700	3,300
Military	3	10	10	10	10
Total Annual Instrument Approaches	**1,919**	**2,133**	**2,442**	**2,765**	**3,434**
Annual Passengers	**121,200**	**131,500**	**147,000**	**167,550**	**204,150**

CHINO AIRPORT

Exhibit 2F
AVIATION FORECAST SUMMARY